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TREATMENT RESULTS WHEN USING REMOVABLE PROSTHETICS BASED ON IMPLANTS

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ABSTRACT

To study the analysis of indicators of the results of removable prosthetics based on implants in the complete absence of teeth. Results: patients with complete absence of teeth, whose dental implantation ended with the manufacture of removable structures, significantly exceeded patients with orthopedic treatment using complete removable prostheses in terms of satisfaction with prosthetics and quality of life after prosthetics. Conclusions: according to the main indicators of treatment results (the implant survival index and the effectiveness of clinical prosthetics), bridges and removable structures based on implants do not have significant differences.

Clinical and biomechanical assessment of the effectiveness of removable prosthetics in dental prosthetics using implants. Materials and methods: a comprehensive examination and treatment of 186 patients with limited defects of the dentition using intraosseous implants with dental fixation (attachments) was carried out at the department and at the Department of Orthopedic Dentistry of the TSSI. There were 10 men (26.3%), 28 women (73.7%), the age of patients was from 21 to 60 years, without concomitant diseases. Results: patients with complete absence of teeth, in whom dental implantation was completed with the manufacture of removable structures, in terms of satisfaction with the prosthesis and quality of life after prosthetics significantly exceeded patients whose orthopedic treatment was carried out with the help of complete removable prostheses. Conclusions: according to the main indicators of treatment results (the implant survival index and the clinical effectiveness of prosthetics), dental and removable structures based on implants do not have significant differences.[4]

Restoring the function of chewing with different types of prostheses with partial loss of teeth remains an important task of orthopedic dentistry. The presence of defects in the dental arch leads to a violation of the integrity of the dentition and the appearance of morphofunctional changes in the dental system, which first occur near the defect, and then spread to the entire dentition. This leads to vertical movement and tilt of the teeth limiting the defect, devoid of antagonists, as well as to reloading of the remaining teeth, occlusion disorder, changes in the mandibular joint. themselves as an effective method of restoring defects of dentition.[7]



Removable prostheses supported by implants, unlike other other types of orthopedic treatment, provide a more complete restoration of the masticatory function of the dental and maxillary system and rapid adaptation to them .[9]

However, despite the success of implantology, reducing the number of complications and increasing the duration of the functioning of prosthetic structures using intraosseous implants remains an urgent problem.

The data of the literature devoted to the study of the role of functional load in prosthetics using intraosseous implants allow us to conclude that, despite a large number of clinical and experimental studies, the physiological direction in the study of the state of the dental system has not been sufficiently developed.[10]

To solve the problem of preventing complications in implantology using orthopedic methods, a comprehensive study of a number of issues related to metabolic processes in the tissues of the dentition defect area is required. In this regard, the study of metered loads, an objective assessment of the functional state of the supporting tissues before and after the treatment is the basis for the development of therapeutic and preventive measures to prevent the development of pathological changes in the tissues surrounding natural teeth and intraosseous implants.

The majority of patients who need to restore the integrity of the dentition had a negative opinion about prosthetics with removable types of prostheses, due to the problems of insufficient restoration of chewing function and aesthetics, unreliable fixation of prostheses [3]. The majority of patients with partial tooth loss (86.1%) prefer fixed dentures, which are more functional, long-lasting, aesthetic. It is known that the effectiveness of orthopedic methods of treatment with bridges is significantly higher than removable structures [8,9].

In case of untimely prosthetics in patients with partial loss of teeth, the adaptive capabilities of the body are disrupted, which leads to the emergence of pathological Changed conditions for the functioning of teeth cause the restructuring of metabolic processes that depend on the strength of the chewing load. With partial adentia, there is a violation of the hemodynamics of tissues in the area of the dentition defect, the intensity of blood circulation decreases, vasoconstriction of blood vessels is observed.

New opportunities have opened up thanks to the introduction into clinical practice of implantation of artificial supports for dentures, expanding the conditions for removable dentures.

Modern dental implantology with the following prosthetics has proven processes in all components of the dental system that prevent adaptation to dentures and disruption of the harmony of interaction of all its elements [1-3,5,6].

Currently, there are various methods of fixing removable dentures used in the treatment of patients with partial tooth loss. In recent years, there has been a significant increase in interest in prostheses that do not have clasps in their design. Such methods of fixation include beam fixation of prostheses, using magnetic elements, using telescopic systems and, finally, locking methods of fixation [1,3,6,7].

The method of using dentures with lock fixation is not a simple repetition of prosthetics with removable plate or clasp prostheses. There are special algorithms for planning and



manufacturing projects with locking systems, ignorance of which can lead to serious errors and thereby discredit the method as a whole [10].

Of considerable importance when choosing a method of fixing a removable prosthesis is the possibility of restoration, repairing it with the loss of one or more supporting teeth, as well as the possibility of replacing or activating the retaining elements. The known methods of fixing removable prostheses are unequal according to the above criteria [3,9,10].

Removable dentures with a locking fixation system splint the supporting teeth well, redistribute the chewing load on all the supporting tissues of the prosthetic bed [2,8,9].

Good fixation, stabilization and high functional efficiency have increased interest in these structures in recent years [4,5,7]. The appearance of modern, durable, indifferent to the tissues of the prosthetic bed alloys, high-precision casting and milling methods have expanded the technological possibilities of their manufacture.

Insufficient theoretically justified use of removable dentures with lock fixation, calculated on the basis of empirical data, often leads to unsatisfactory results of prosthetics [12,13]. When choosing an orthopedic structure that optimally distributes the load between the available supporting elements, a preliminary theoretical justification of the choice is of great importance [11,14,24]. This makes it possible to predict the successful functioning of the entire system and avoid complications [17,18].

There are publications devoted to locking and telescopic fixation of removable prostheses [5,6], but they, as a rule, discuss to a greater extent the technological aspects of the issue or state certain negative clinical manifestations, without touching on the mechanism of their origin.

Analysis of domestic and foreign literature has shown that, despite significant progress, the issue of orthopedic treatment of patients with dentition defects using removable dentures with lock fixation has not been sufficiently studied and requires further consideration of the possibility of removable prosthetics in dental prosthetics using implants.

Material and methods

Comprehensive examination and treatment of 186 patients with limited defects of dentition using intraosseous implants with lock fixation (attachments) was carried out at the department and in the Department of Orthopedic Dentistry of TSSI. There were 10 men (26.3%),

28 women (73.7%), the age of patients was from 21 to 60 years, without concomitant diseases. Distribution of the examined patients by gender and age with the results

Analysis of the results of treatment of patients after 1 year after the completion of prosthetics showed that there were no rejections of any of the

368 implants included in prosthetics in patients of the study group. At the same time, rejection of the 1st implant, which served as a support for a single crown, was revealed in patients of the control group. Total implant preservation index: the clinical effectiveness of prosthetics in patients of the study group was 100%, and the same indicators in the control group were 98.9%.

Thus, there are no significant differences in the results of treatment in the study and control groups, but, in any case, with bridge and removable prosthetics based on implants in



patients with POS, the number of favorable outcomes is not less than with implantological treatment with single crowns.[10,14]

When examining the condition of the gums 1 year after the completion of prosthetics, the phenomena of pronounced inflammation were not detected in any of the patients of the compared groups. At the same time, minor signs of inflammatory phenomena in the form of mild hyperemia and bleeding during probing were observed in the area of 35 implants (9.5%) in patients of the study group and in 7 of the 87 remaining implants (8.1%) in the control group. The difference in treatment results on this basis is not statistically significant.[9,13]

Gum recession within 1 mm or less 1 year after the completion of prosthetics was established in the area of 16 (4.3%) implants in patients of the study group and in the area of 6 (6.9%) implants in the control group. Consequently, gum recession occurs significantly less frequently in patients of the study group than in patients of the control group. There was no gum recession of more than 1 mm.

The assessment of the condition of the bone tissue surrounding the implant showed that at the time of fixation of the prostheses in the oral cavity in the area of 2 implants at the level of the apical and middle third of the intraosseous part, foci of resorption with a diameter of 2 to 5 mm with uneven and fuzzy contours appeared, but when studying the bone tissue 1 year after the completion of prosthetics these phenomena disappeared, and an organotypic bone pattern of normal density was observed.[2,23]

The decrease in the marginal level of the bone 1 year after the fixation of the prostheses in the oral cavity in patients of both the study and control groups was identical and averaged 0.3 ± 0.2 mm.[7,24]

The levels of satisfaction with the prosthesis and the quality of life after prosthetics determined by the questionnaire 1 year after its completion were found out not only in patients with dental implants, but also in patients of the control group with complete removable dentures of conventional design. Satisfaction with the prosthesis of patients in the study group was 4.2 ± 0.4 points, in patients of the control group with implants - 4.5 ± 0.5 points, in patients of the control group with conventional removable prostheses - 2.3 ± 0.6 points. The difference in the degree of satisfaction with the prosthesis in patients of the study and control groups with implants is not statistically significant, at the same time, satisfaction with the results of bridge-shaped and removable prosthetics based on implants in patients with POS is significantly higher than with prosthetics with conventional full removable prostheses.- Thus, the assessment of the quality of life performed by patients 1 year after the fixation of prostheses in the oral cavity showed the following results: out of a possible 70 points, 62.7 ± 5.2 points were found in patients of the study group, 65.7 ± 3.7 points in patients of the control group with implants, 47.8 ± 6.6 points in patients of the control group with conventional removable prostheses points.[9]

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